forming a buried implanted impurity ion region at a location which is spaced below a surface of a substrate where a buried layer is to be formed in the substrate;

placing the substrate inside a reactor furnace and, while maintaining the substrate in the reactor furnace;

providing a nonoxidizing atmosphere inside of the reactor furnace;

annealing the substrate to activate implanted impurity ions by increasing the internal temperature of the reactor furnace up to a first temperature wherein the first temperature does not cause oxide induced stacking fault to occur in the nonoxidizing atmosphere; and

before the buried ion implanted region beneath the surface of the substrate expands upwardly sufficiently to reach the surface of the substrate, changing the internal temperature of the reactor furnace from the first temperature to a second temperature of approximately 1,000 Centigrade, during which time the buried implanted impurity ion region diffuses both upwardly and downwardly from the location below the surface of the substrate, so as to allow an epitaxial crystal to start growing on the surface and introducing an epitaxial growth gas into the reactor furnace to cause an epitaxial layer to grow on the surface of the substrate, thereby inhibiting autodoping and formation of crystal defects in the epitaxial layer; and

then removing the substrate from the reactor furnace.

2. (Canceled)

3. (Original) The process for fabricating the semiconductor device as set forth in claim 1, wherein the first temperature is lower than the second temperature.

4. (Previously Presented) The process for fabricating the semiconductor device as set forth in claim 1 further comprising the steps of:

providing a cleaning gas in the reactor furnace to clean up the surface of the substrate between the step of diffusing the ion implanted region and the step of growing the epitaxial layer.

5. (Original) The process for fabricating the semiconductor device as set forth in claim 4, wherein the first temperature is lower than the second temperature.

6. (Original) The process for fabricating the semiconductor device as set forth in claim 4, wherein the first temperature is higher than the second temperature.

7. (Original) The process for fabricating the semiconductor device as set forth in claim 1, wherein the surface of the substrate is covered by the oxide film at the step of implanting the impurity ion.

8. (Previously Presented) The process for fabricating the semiconductor device as set forth in claim 4, wherein the cleaning gas comprises H_2 gas.

9. (Original) The process for fabricating the semiconductor device as set forth in claim 4, wherein the cleaning gas includes HC1 gas.